UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,274	02/06/2004	James C. Farmer	10002763-2	4451

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EXAMINER
CONNOLLY, MARK A

ART UNIT	PAPER NUMBER
2115	

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/772,274	FARMER ET AL.
	Examiner	Art Unit	
	Mark Connolly	2115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _06 February 2004_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-19_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-4,8-11 and 15_ is/are rejected.

7)☒ Claim(s) _5-7,12-14 and 16-19_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-19 have been presented for examination.

Double Patenting

2.   The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3.   Claims 1-5, 7 and 15-19 are rejected under the judicially created doctrine of obviousness-

type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6715093 to Farmer

et al. Although the conflicting claims are not identical, they are not patentably distinct from each

other because it would have been obvious that the method for controlling a system function

could also be applied to control a chip function.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.   Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Fernando US Pat No

5471587 in view of Ware.

6.   Referring to claim 1, Fernando teaches the invention including:

a.   creating a global framing clock (GFC) that is synchronized with a plurality of

synchronous clocks and that has a rising or falling edge that corresponds to the rising or

falling edges of the plurality of synchronous clocks [fig. 18 and abstract and col. 8 lines

26-35].

b.   using the GFC to control a chip function [abstract and col. 8 lines 34-35].

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

8.   Claims 3-4 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Fernando as applied to claim 1 above.

9.   Referring to claims 3-4 and 15, Fernando teaches the invention including:

c.   creating a GFC having an edge that corresponds to the edges of a plurality of

clocks [fig. 18, abstract and col. 8 lines 26-35].

d.   receiving an event [fig. 18, abstract and col. 8 lines 26-35].

e.   waiting for an edge of the global framing clock [fig. 18, abstract and col. 8 lines

26-35].

f.   releasing the event to the system when the edge of the GFC occurs [fig. 18,

abstract and col. 8 lines 26-35].

Although it is not explicitly taught that the event is asynchronous, Fernando does teach

that GFC controls data transferring between, for example, a processor and a device [col. 1 lines

30-35]. It is well known in the art that most communications (i.e. data transfers) between a

processor and a device are asynchronous and therefore it would have been obvious to control

asynchronous data transfers using the GFC so that any asynchronous data transfer would be able

to be performed at fractional speeds as taught by Fernando. In addition, even though Fernando

teaches that the rising edge of the GFC clock corresponds to a rising and falling edge of the

plurality of clocks and that the asynchronous event is released on a falling edge of the GFC

clock, it would have been obvious to one of ordinary skill in the art that the Fernando system

could be modified to generate the GFC clock based on rising edges of the plurality of clocks and

release the asynchronous event in accordance with rising edges of the GFC clock.

10.   Claims 1, 2 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Amini et al [Amini] US Pat No 5867695 in view of Ware et al [Ware] US Pat No 6396887.

11.   Referring to claim 1, Amini teaches a computer signal for allowing repeatable system

behavior in an integrated circuit having multiple clock domains created by a plurality of

synchronous clocks comprising:

    g.   a plurality of synchronous clocks that have synchronous rising or falling edges

    [col. 3 lines 21-26 and fig. 5]. The clocks are interpreted as synchronous because Amini

    explicitly teaches that the clocks align periodically.

    h.   using the synchronous edges to control a chip function [col. 3 lines 21-26].

Amini does not explicitly teach creating a global framing clock (GFC) that is

synchronized with the rising or falling edges of the synchronous clocks and that the GFC is used

to control a chip function. Ware teaches creating a GFC that is synchronized with the rising or

falling edges of a plurality of synchronous clocks [fig. 3 and col. 4 lines 56-67]. It would be

obvious to modify Amini system to generate the GFC taught in Ware in order to notify the

system that the clock signals are in alignment because it would simplify the detection circuitry

46 fig. 2 of Amini by only requiring it to detect an edge of a single clock rather than detecting

edges of a plurality of clocks then determining if those edges are in alignment.

12.   Referring to claim 2, the Amini-Ware system teaches the frequency of the GFC having a

frequency equal to the lowest common denominator of the speeds of the plurality of synchronous

clocks or to some divisor thereof [fig. 3 and col. 4 lines 56-67 *in Ware* and fig. 5 *in Amini*].

13.   Referring to claim 8, Amini teaches the invention substantially including:

i.   a system clock [col. 1 lines 9-14]. The second clock taught by Amini is

interpreted as a system clock because it represents the clock rate at which a second device

within the system operates.

j.   at least one intermediate clock that is synchronized with the system clock and has

a slower frequency than the system clock [fig. 5, col. 1 lines 9-14 and col. 3 lines 21-26].

The first clock taught by Amini is interpreted as an intermediate clock that is

synchronized with the system clock and has a slower frequency. The clocks are also

interpreted as synchronous because Amini explicitly teaches that the clocks align

periodically.

k.   an integrated circuit that receives the system clock and the at least one

intermediate clock [fig. 2].

Although Amini teaches the system and intermediate clocks above, Amini does not

explicitly teach a GFC that is received by an integrated circuit and wherein the GFC controls a

function of the integrated circuit. Ware teaches creating a GFC that is synchronized with the

rising or falling edges of a plurality of synchronous clocks [fig. 3 and col. 4 lines 56-67]. It

would be obvious to modify Amini system to generate the GFC taught in Ware in order to notify

the system that the clock signals are in alignment because it would simplify the detection

circuitry 46 fig. 2 of Amini by only requiring it to detect an edge of a single clock rather than

detecting edges of a plurality of clocks then determining if those edges are in alignment.

Because Amini teaches that the reset for the clock counters cannot be issued unless the first and

second clocks are in alignment, which in the Amini-Ware system the alignment is represented by

the GFC clock, it is obvious that the GFC clock would be used to control when a reset is issued.

14.   Referring to claims 9-11, these are rejected on the same basis as set forth hereinabove.

Allowable Subject Matter

15.   Claims 5-7, 12-14 and 16-19 are objected to as being dependent upon a rejected base

claim, but would be allowable if rewritten in independent form including all of the limitations of

the base claim and any intervening claims.

Conclusion

16.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Mark Connolly whose telephone number is (571) 272-3666. The

examiner can normally be reached on M-F 8AM-5PM (except every first Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Thomas C. Lee can be reached on (571) 272-3667. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark Connolly
Examiner
Art Unit 2115

mc
November 7, 2005

THOMAS LEE
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